

We claim:

SAC
1. A method for receiving information in a communication system that uses ARQ with
2. PIR, the method comprises the step of:

3. deciding which confirmation message to transmit based on an information
4. status flag indication contained in the received information and a decoding operation
5. performed on the received information thus providing a technique for recovering from
6. misinterpretation of a previous confirmation message transmission.

1. 2. The method of claim 1 wherein the step of deciding which confirmation message to
2. transmit comprises waiting for NEW information.

1. 3. The method of claim 1 further comprising waiting for NEW information after a
2. positive confirmation message was transmitted.

1. 4. The method of claim 1 further comprising transmitting a positive confirmation
2. message after receiving NEW information while waiting for either NEW or CONTINUE
3. information, decoding said received information successfully and discarding any
4. previously received information.

1. 5. The method of claim 1 where the step of deciding which confirmation message to
2. transmit further comprises transmitting a positive confirmation message if the received
3. information is NEW information and the decoding operation was successful.

1. 6. The method of claim 1 where the step of deciding which confirmation message to
2. transmit further comprises transmitting a negative confirmation message if the received
3. information is NEW information and the decoding operation was unsuccessful

1. 7. The method of claim 6 further comprising the steps of:

2 waiting for CONTINUE information after the negative confirmation
3 message was transmitted;
4 combining received CONTINUE information with previously received
5 and decoded information; and
6 performing a decoding operation on the combined information

1 A method for ARQ using Incremental Redundancy, the method comprises:
2 transmitting a positive confirmation message after having received
3 CONTINUE information while waiting for NEW information, or after having
4 successfully decoded received NEW information while waiting for either NEW or
5 CONTINUE information, or after having successfully decoded combined CONTINUE
6 information after having waited for CONTINUE information.

1 9. The method of claim 8 further comprising the step of transmitting a negative
2 confirmation message after any of the received information was unsuccessfully decoded.

1 10. The method of claim 8 where the received information is formatted as one or more
2 sub-packets where each sub-packet contains a one-bit information status flag defining the
3 packet as either NEW or CONTINUE.

1 11. The method of claim 10 where the information status flag is stored in each packet's
2 header.

1 12. The method of claim 8 where the received NEW or CONTINUE information
2 comprises a plurality of packets where each packet has a header, a payload and a trailer
3 and where a one-bit NEW/CONTINUE flag is stored in the header.